UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,354	03/31/2004	Patrick Chiu	FXPL-1094US0	8294

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EXAMINER
PARK, EDWARD

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 November 2007*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   This action is responsive to applicant's amendment and remarks received on 11/8/07.

Claims 1-21 are currently pending.

Claim Objections

2.   In response to applicant's amendment of claims 14, 15, 16, 17, and 18, the previous claim

objections are withdrawn.

Claim Objections - 37 CFR 1.75(a)

3.   In response to applicant's amendment of claim 13, the previous claim objection is

withdrawn.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

5.   **Claim 20** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for

failing to particularly point out and distinctly claim the subject matter which applicant regards as

the invention.

Regards to **claim 20**, the phrase, "salient part of an image", is interpreted broadly as

being a "region of interest of an image". What is the scope of the two phrases? "Salient part"

suggests a prominent/striking part of an image. A prominent/striking part of an image can be a

face, a particular background/object, etc. The salient part deems the claim to be vague and

indefinite. For examination purposes, the broadest interpretation will be considered taken into

account. Further clarification and correction is required.

Claim Rejections - 35 USC § 102

6.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7.   **Claims 1, 10, 12** are rejected under 35 U.S.C. 102(b) as being anticipated by Jun et al

(US 2001/0020981 A1).

Regarding **claim 1**, Jun teaches a method for generating a highly condensed visual

summary of video regions, comprising:

determining a dominant group in each of a plurality of video segments (Jun: paragraphs

[0023]-[0024]);

determining a key frame in each of the video segments (Jun: paragraphs: [0023]-[0024]);

defining a germ associated with each dominant group in each of the video segments (Jun: paragraph [0051]);

laying out the germs on a canvas, each germ associated with a support; and filling in the space of the canvas (Jun: figures: 13a, 13b, 17).

Regarding **claim 10**, Jun teaches a method for generating a highly condensed visual summary of video regions, comprising:

determining a germ in each of a plurality of images, the germ containing a region of interest (Jun: paragraph [0051]);

laying out the germs on a canvas, each germ associated with a support; and filling in the space of the canvas with one or more parts of the image from the support (Jun: figures: 13a, 13b, 17).

Regarding **claim 12**, Jun teaches receiving user input, the user input associated with a part of an image (Jun: paragraph [0077]).

Claim Rejections - 35 USC § 103

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9.   **Claims 2-6, 13-15, 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Jun

et al (US 2001/0020981 A1) in view of Uchihashi (ACM Multimedia: "Video Manga:

Generating Semantically Meaningful Video Summaries").

Regarding **claim 2**, Jun discloses all elements as mentioned above in claim 1. Jun does

not teach determining a group within each of the plurality of video segments having the largest

volume.

Uchihashi teaches determining a group within each of the plurality of video segments

having the largest 3-D volume (Uchihashi: section 4.2, length of the segment is scored).

It would have been obvious at the time the invention was made to one of ordinary skill in

the art to modify the Jun reference to determine a group having the largest volume as taught by

Uchihashi, in order to "calculate an importance score for each segment based on its rarity and

duration" since "a segment is deemed less important if it is short or very similar to other

segments" (Uchihashi: section 4.2).

Regarding **claims 3, 4, and 20**, Jun discloses all elements as mentioned above in claim 1.

Jun does not teach defining a two dimensional shape that encompasses the projection of the

dominant group onto the key frame; wherein the two dimensional shape is a rectangle; and using

an algorithm to determine a salient part of an image.

Uchihashi teaches defining a two dimensional shape that encompasses the projection of

the dominant group onto the key frame (Uchihashi: figure 2; section 4.4) and wherein the two

dimensional shape is a rectangle (Uchihashi: figure 2; section 4.4).

It would have been obvious at the time the invention was made to one of ordinary skill in

the art to modify the Jun reference to define a two dimensional shape that is a rectangle as taught

by Uchihashi, in order to "form a pictorial abstract of the video sequence" where a "sequence of frames .... fills space efficiently and represents the original video sequence well" (Uchihashi: section 4.4).

Uchihashi further teaches using an algorithm to determine a salient part of an image (Uchihashi: figure 4.2).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Jun with Uchihashi combination as mentioned above to determine a salient part of an image as taught by Uchihashi, "to select appropriate keyframes for a compact pictorial summary" (Uchihashi: section 4.2).

Regarding **claims 5 and 6**, Jun with Uchihashi discloses all elements as mentioned above in claim 3. Jun with Uchihashi as mentioned in claim 3, does not teach determining a scale factor to be applied to every germ such that the germs are scaled to the maximum size that fits into the canvas and placing the germs in rows, wherein each row has a height according to the longest germ in the particular row.

Uchihashi further teaches determining a scale factor to be applied to every germ such that the germs are scaled to the maximum size that fits into the canvas (Uchihashi: section 4.3, 4.4) and placing the germs in rows, wherein each row has a height according to the longest germ in the particular row (Uchihashi: figure 2).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Jun with Uchihashi combination to place the germs in a row as taught by Uchihashi, to "fill space efficiently and represent the original video sequence well" (Uchihashi: section 4.2).

Regarding **claim 13**, Jun discloses all elements as mentioned above in claim 10. Jun does not disclose using an algorithm to determine the regions of interest of an image based on one or more methods selected from the group consisting of a general image analysis algorithm, a face-detection algorithm, and object detection algorithms and user input.

Uchihashi teaches using an algorithm to determine the regions of interest of an image based on one or more methods selected from the group consisting of a general image analysis algorithm (see section 4.2, segment is scored and weighted), a face-detection algorithm, and object detection algorithms and user input.

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Jun reference to determine the regions of interest with a general image analysis algorithm as taught by Uchihashi, "to select appropriate keyframes for a compact pictorial summary" (Uchihashi: section 4.2).

Regarding **claims 14 and 15**, Jun reference discloses all elements as mentioned above in claim 10. Jun reference as mentioned in claim 10, does not teach determining a scale factor to be applied to every germ such that the germs are scaled to the maximum size that fits into the canvas and placing the germs in rows, wherein each row has a height according to the longest germ in the particular row.

Uchihashi further teaches determining a scale factor to be applied to every germ such that the germs are scaled to the maximum size that fits into the canvas (Uchihashi: section 4.3, 4.4) and placing the germs in rows, wherein each row has a height according to the longest germ in the particular row (Uchihashi: figure 2).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Jun reference to place the germs in a row as taught by Uchihashi, to "fill space efficiently and represent the original video sequence well" (Uchihashi: section 4.2).

10.   **Claims 7-9, 16-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Jun et al (US 2001/0020981 A1) in view of Li et al (US 2006/0023786 A1).

Regarding **claims 7-9,** Jun discloses all elements as mentioned above in claim 1. Jun does not teach assigning a pixel value of each point in the canvas to the same pixel value in the support associated with the germ closest to each point; wherein if the germ closest to the point does not have a support that includes the point, the point is assigned the pixel value of the closest germ with a support that includes the point; wherein the point is assigned a background value if no support includes the point.

Li teaches assigning a pixel value of each point in the canvas to the same pixel value in the support associated with the germ closest to each point (Li: paragraph [0144]); wherein if the germ closest to the point does not have a support that includes the point, the point is assigned the pixel value of the closest germ with a support that includes the point (Li: paragraph [0052]); wherein the point is assigned a background value if no support includes the point (Li: paragraph [0052], [0144]).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Jun reference to assign pixel value to a germ that is closest as taught by Li, to create an aesthetically/visually pleasing to the user by removing white spaces between germs.

Regarding **claims 16-18,** Jun discloses all elements as mentioned above in claim 10. Jun does not teach assigning a pixel value of each point in the canvas to the same pixel value in the

support associated with the germ closest to each point; wherein if the germ closest to the point does not have a support that includes the point, the point is assigned the pixel value of the closest germ with a support that includes the point; wherein the point is assigned a background value if no support includes the point.

Li teaches assigning a pixel value of each point in the canvas to the same pixel value in the support associated with the germ closest to each point (Li: paragraph [0144]); wherein if the germ closest to the point does not have a support that includes the point, the point is assigned the pixel value of the closest germ with a support that includes the point (Li: paragraph [0052]); wherein the point is assigned a background value if no support includes the point (Li: paragraph [0052], [0144]).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Jun reference to assign pixel value to a germ that is closest as taught by Li, to create an aesthetically/visually pleasing to the user by removing white spaces between germs.

11.   **Claims 11, 19** is rejected under 35 U.S.C. 103(a) as being unpatentable over Jun et al (US 2001/0020981 A1) in view of Li et al (US 7,035,435 B2).

Regarding **claim 11**, Jun discloses all elements as mentioned above in claim 10. Jun does not teach detecting a face in each of the plurality of images.

Li teaches detecting a face in each of the plurality of images (Li: col. 7, lines 33-51).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Jun reference to detect a face as taught by Li, in order to determine the importance of a frame since "a human face will be more informative than, for example, a landscape frame" (Li: col. 7, lines 33-51).

Regarding **claim 19**, Jun discloses all elements as mentioned above in claim 1. Jun does

not teach detecting a face in each of the plurality of images.

Li teaches detecting a face in each of the plurality of images (Li: col. 7, lines 33-51).

It would have been obvious at the time the invention was made to one of ordinary skill in

the art to modify the Jun reference to detect a face as taught by Li, in order to determine the

importance of a frame since "a human face will be more informative than, for example, a

landscape frame" (Li: col. 7, lines 33-51).

12.   **Claim 21** is rejected under 35 U.S.C. 103(a) as being unpatentable over Jun et al (US

2001/0020981 A1) in view of Lin et al (US 6,307,964 B1).

Regarding **claim 21**, Jun discloses all elements as mentioned above in claim 1. Jun does

not disclose using a Voronoi algorithm to determine the shape of the support to be placed on the

canvas.

Lin, in the same field of endeavor, teaches using a Voronoi algorithm to determine the

shape of the support to be placed on the canvas (see col. 2, lines 41-46, representing a shape of

an object in an image)

It would have been obvious at the time the invention was made to one of ordinary skill in

the art to modify the Jun reference to utilize a Voronoi algorithm as taught by Lin, in order

increase the "effectiveness of a shape descriptor" by being "able to capture the structural

information of the shape, yet be robust to noise within the boundary [to] yield the most favorable

result" (see col. 2 lines 32-40).

Response to Arguments

13.   Applicant's arguments filed 11/8/07, in regards to **claim 1** have been fully considered but they are not persuasive. Applicant argues that the Jun reference does not disclose the "filling in the space of the canvas" limitation of claim 1. This argument is not considered persuasive since it can be clearly seen in figure 13a and paragraphs 0074-0075 that the synthetic key frame FSK presents an image by combining key frames or key regions representing the entire content of the scene. The claim limitation, "filling in the space of the canvas", does not bring in the limitation of occupying every bit of space of the canvas. "Filling in the space of the canvas", only brings in the limitation of placing germs on a canvas which the Jun reference discloses.

In regards to **claim 2**, applicant argues that the Jun with Uchihashi combination does not teach the amended claim limitation. This argument is not considered persuasive and the rejection of amended claim can be seen above.

In regards to **claim 10**, applicant argues that the Jun reference does not meet the limitation, "filling in the space of the canvas with one or more parts of the image from the support". This argument is not considered persuasive since it can be clearly seen in figure 13a and paragraphs 0074-0075 that the synthetic key frame FSK presents an image by combining key frames or key regions representing the entire content of the scene. The claim limitation "filling in the space of the canvas with one or more parts of the image from the support", does not bring in the limitation of occupying every bit of space of the canvas. Furthermore, parts of the image from the support can be anything from a single extra pixel to a whole background image which in also seen in fig. 13a and paragraphs 0074-0075. "filling in the space of the canvas with one or more parts of the image from the support", only brings in the limitation of placing germs on a

canvas which the Jun reference discloses. Furthermore, the applicant argues that the Examiners admitted that in Jun there was no space or that it was filled with the germ, which is not accurate since in the interview summary and through further examination, the statement was not agreed upon and also stand untrue through further examination.

In regards to **claim 12**, applicant argues that the claim is patentable since it depends from claim 10. This argument is not persuasive since the rejection of claim 10 stands and can be seen above.

In regards to **claims 7-9, 16-18**, applicant argues that the claim limitations are not disclosed by the Jun with Li combination. This argument is not persuasive since the Jun with Li combination discloses the limitations and can be seen above in the rejection of the claims.

In regards to **claim 11**, applicant argues that the claim is patentable since it depends from claim 10. This argument is not persuasive since the rejection of claim 10 stands and can be seen above.

Conclusion

14.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period
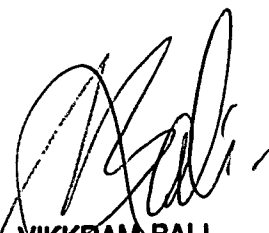
will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Edward Park whose telephone number is (571) 270-1576. The

examiner can normally be reached on M-F 10:30 - 20:00, (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Vikkram Bali can be reached on (571) 272-7415. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

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information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Edward Park
Examiner
Art Unit 2624

/Edward Park/

VIKKRAM BALI
PRIMARY EXAMINER